What is claimed is:

1. An isolated nucleic acid molecule that hybridizes under stringent conditions with a gene selected from the group consisting of a flea saliva gene comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:76 and a nucleic acid sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO:78 and SEQ ID NO:87.

2. An isolated nucleic acid molecule that hybridizes under stringent hybridization conditions with a nucleic acid molecule having a nucleic acid sequence encoding a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87.

3. An isolated protein encoded by a nucleic acid molecule that hybridizes under stringent hybridization conditions with a nucleic acid molecule having a nucleic acid sequence encoding a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87.

4. A therapeutic composition for treating allergic dermatitis comprising a formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises at least a portion of an amino acid sequence, wherein said portion is encoded by a nucleic acid molecule that hybridizes under stringent hybridization conditions with a nucleic acid molecule having a nucleic acid sequence selected from the group consisting of SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:76 and a nucleic acid sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO:78 and SEQ ID NO:87.

5. An assay kit for testing if an animal is susceptible to or has allergic dermatitis, said kit comprising:

(a) a formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and

(b) a means for determining if said animal is susceptible to or has allergic dermatitis, wherein said

means comprises use of said formulation to identify animals susceptible to or having allergic dermatitis.

6. A method to identify an animal susceptible to or having allergic dermatitis, said method comprising:

(a) administering to a site on said animal a formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and

(b) comparing a reaction resulting from administration of said formulation with a reaction resulting from administration of a control solution, wherein said animal is determined to be susceptible to or to have allergic dermatitis if said reaction to said formulation is at least as large as said reaction to a positive control solution, and wherein said animal is determined not to be susceptible to or not to have allergic dermatitis if said reaction to said formulation is about the same size as said reaction to a negative control solution.

7. A method to identify an animal susceptible to or having allergic dermatitis by measuring the presence of antibodies indicative of allergic dermatitis in said animal, said method comprising:

(a) contacting a formulation with a body fluid from said animal under conditions sufficient for formation of an immunocomplex between said formulation and said antibodies, if present, in said body fluid, said formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and

(b) determining the amount of immunocomplex formed, wherein formation of said immunocomplex indicates that said animal is susceptible to or has allergic dermatitis.

8. A method to desensitize a host animal to allergic dermatitis, comprising administering to said animal a therapeutic composition comprising a formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87.

9. A method for prescribing treatment for allergic dermatitis, comprising:

(a) identifying an animal that is susceptible to or has allergic dermatitis by an *in vivo* or *in vitro* assay

comprising a formulation comprising at least one isolated ectoparasite saliva protein, wherein said ectoparasite saliva protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and

(b) prescribing a treatment comprising administering said formulation to said animal.

10. The invention of Claims 1 or 2, wherein said nucleic acid molecule comprises a nucleic acid sequence that encodes a flea saliva protein.

11. The invention of Claims 1 or 2, wherein said nucleic acid molecule is a flea nucleic acid molecule.

12. The invention of Claims 1 or 2, wherein said nucleic acid molecule is selected from the group consisting of *Ctenocephalides*, *Ceratophyllus*, *Diamanus*, *Echidnophaga*, *Nosopsyllus*, *Pulex*, *Tunga*, *Oropsylla*, *Orchopeus* and *Xenopsylla* nucleic acid molecules.

13. The invention of Claims 1 or 2, wherein said nucleic acid molecule is selected from the group consisting of *Ctenocephalides felis*, *Ctenocephalides canis*, *Ceratophyllus pulicidae*, *Pulex irritans*, *Oropsylla (Thrassis) bacchi*, *Oropsylla (Diamanus) montana*, *Orchopeus howardi*, *Xenopsylla cheopis* and *Pulex simulans* nucleic acid molecules.

14. The invention of Claims 1 or 2, wherein said nucleic acid molecule comprises a *Ctenocephalides felis* nucleic acid molecule.

15. The invention of Claim 1, wherein said nucleic acid molecule hybridizes under stringent hybridization conditions with a nucleic acid molecule selected from the group consisting of $nfspG5_{595}$, $nfspG5_{270}$, $nfspG5_{213}$, $nfspI_{1007}$, $nfspN5_{1205}$, $nfspN5_{1059}$, $nfspN6_{406}$ and $nfspJ_{420}$.

16. The invention of Claim 1, wherein said nucleic acid molecule comprises a nucleic acid molecule selected from the group consisting of $nfspG5_{595}$, $nfspG5_{270}$, $nfspG5_{213}$, $nfspI_{1007}$, $nfspN5_{1205}$, $nfspN5_{1059}$, $nfspN6_{406}$ and $nfspJ_{420}$.

17. The invention of Claims 1 or 2, wherein said nucleic acid molecule is selected from the group consisting of: a nucleic acid molecule comprising a nucleic acid sequence that encodes a protein having an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and a nucleic acid molecule comprising an allelic variant of a nucleic acid molecule encoding any of said amino acid sequences.

18. The invention of Claims 1 or 2, wherein said nucleic acid molecule is selected from the group consisting of a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:57, SEQ ID

NO:58, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:76 and a nucleic acid sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO:78 and SEQ ID NO:87.; and a nucleic acid molecule comprising an allelic variant of a nucleic acid molecule having any of said nucleic acid sequences.

19. The invention of Claim 1 or 2, wherein said nucleic acid molecule comprises an oligonucleotide.

20. A recombinant molecule comprising a nucleic acid molecule as set forth in Claims 1 or 2 operatively linked to a transcription control sequence.

21. A recombinant virus comprising a nucleic acid molecule as set forth in Claims 1 or 2.

22. A recombinant cell comprising a nucleic acid molecule as set forth in Claims 1 or 2, said cell being capable of expressing said nucleic acid molecule.

23. The invention of Claim 3, wherein said protein, when administered to an animal, is capable of eliciting an immune response against a flea saliva protein.

24. The invention of Claim 3, wherein said protein is selected from the group consisting of: a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:53, SEQ ID NO:62, SEQ ID NO:65, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:78 and SEQ ID NO:87; and a protein encoded by an allelic variant

of a nucleic acid molecule encoding a protein comprising any of said amino acid sequences.

25. An isolated antibody that selectively binds to a protein as set forth in Claim 3.

26. The invention of Claims 4 or 5, wherein said allergic dermatitis is selected from the group consisting of flea allergy dermatitis, mosquito allergy dermatitis and *Culicoides* allergy dermatitis.

27. The invention of Claims 4 or 5, wherein said allergic dermatitis comprises flea allergy dermatitis.

28. The invention of Claims 4 or 8, wherein said composition further comprises at least one component selected from the group consisting of an excipient, an adjuvant and a carrier.

29. The invention of Claim 4, wherein said composition comprises a controlled release composition.

30. The invention of Claim 5, wherein said means of determining is selected from the group consisting of *in vivo* tests and *in vitro* tests.

31. The invention of Claim 30, wherein said *in vivo* test comprises a skin test comprising:

(a) administering to a site on said animal said formulation and administering to a different site on said animal a control solution selected from the group consisting of positive control solutions and negative control solutions; and

(b) comparing a reaction resulting from administration of said formulation with a reaction resulting from administration of said control solution, wherein said animal is determined to be susceptible to or to have allergic dermatitis if said reaction to said formulation is at least as large as said reaction to said positive control solution, and wherein said animal is determined not to be susceptible to or not to have allergic dermatitis if said reaction to said formulation is about the same size as said reaction to said negative control solution.

32. The invention of Claims 5 or 6, wherein said invention detects hypersensitivity selected from the group consisting of immediate hypersensitivity and delayed hypersensitivity.

33. The invention of Claims 6 or 31, wherein said reaction is selected from the group consisting of a wheal, induration, erythema, and combinations thereof.

34. The invention of Claims 6 or 31, wherein said positive control comprises histamine and said negative control comprises saline.

35. The invention of Claim 30, wherein said *in vitro* test comprises a method for measuring the presence of antibodies indicative of allergic dermatitis in said animal, said method comprising:

(a) contacting said formulation with a body fluid from said animal under conditions sufficient for

formation of an immunocomplex between said formulation and said antibodies, if present, in said body fluid; and

(b) determining the amount of immunocomplex formed, wherein formation of said immunocomplex indicates that said animal is susceptible to or has allergic dermatitis.

36. The invention of Claims 5 or 7, wherein said formulation is immobilized on a substrate.

37. The invention of Claims 7 or 35, wherein said antibodies comprise immunoglobulin IgE antibodies.

38. The invention of Claims 5 or 7, wherein said invention detects immediate hypersensitivity in said animal.

39. The invention of Claim 6, wherein said reaction is measured about 15 minutes after administration of said formulation to determine immediate hypersensitivity of said animal to said formulation.

40. The invention of Claim 6, wherein said reaction is measured about 24 hours after administration of said formulation to determine delayed hypersensitivity of said animal to said formulation.

41. The invention of Claim 7, wherein said body fluid is pretreated to remove non-IgE antibodies from said fluid.

42. The invention of Claim 9, wherein said nucleic acid molecule is capable of hybridizing under stringent conditions with a nucleic acid sequence selected from the group consisting of SEQ ID NO:52, SEQ ID NO:54, SEQ ID

NO:55, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:76 and a nucleic acid sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO:78 and SEQ ID NO:87.